Questions and Answers for the Florida Semaphore Cactus and Aboriginal Prickly-apple Critical Habitat Designations

Q1: **Where are these two cacti found?**

A: These plants are large tree- or shrub-like cacti. The Florida semaphore cactus is found in coastal berms, coastal rock barrens, rockland hammocks, and buttonwood forests on sandy or limestone rockland soils with little organic matter. The aboriginal prickly apple is found on coastal berms, coastal strand, coastal grasslands, and maritime hammocks. It also occurs on shell mounds.

The current range of Florida semaphore cactus includes two naturally occurring populations and five reintroduced populations. These populations account for fewer than 1,500 plants and all are located on conservation lands. Wild populations remain on Swan Key in Biscayne National Park and Little Torch Key on a Nature Conservancy property. Wild populations on Key Largo and Big Pine Key in the Florida Keys were lost more than a decade ago by development and collecting by cactus enthusiasts. Reintroduced populations are located on Key Largo, Lower Saddlebunch Key, Big Pine Key and Upper Sugarloaf Key on state and federal lands.

The current range of aboriginal prickly-apple includes 12 populations in seven public and private conservation areas, as well as four county parcels not managed for conservation and at least three privately- owned parcels. In total, the species was represented by an estimated 300 to 500 individuals in 2007, when population sizes were last estimated. Populations previously known from Terra Ceia in Manatee County and Cayo Costa Island in Lee County are no longer found in these areas.

Q2: Why is the U.S. Fish and Wildlife Service designating critical habitat for these two cacti?

A: When the Service determines that a species is threatened or endangered, it must designate critical habitat "to the maximum extent prudent and determinable" under the Endangered Species Act (ESA) (section 4(a)(3)(A)). Initially, we found critical habitat to be "not prudent" in the proposed rule to list Florida semaphore cactus and aboriginal prickly-apple as endangered species because of the potential for an increase in collecting. However, the Service re-evaluated the prudency determination for both cacti based on public comment and information already publicly available that indicates where these plants are found. Consequently, we determined that critical habitat is prudent and determinable for both cacti.

Q3: How much area is being designated as critical habitat for these two cacti?

A: The Service is designating critical habitat in four areas where the Florida semaphore cactus is found, comprising approximately 4,411 acres in Miami-Dade and Monroe Counties. Approximately 3,444 acres will be designated in 11 areas for the aboriginal prickly-apple in Manatee, Charlotte, Sarasota and Lee Counties.

Q4: What were previous federal actions regarding these two cacti?

A: Previous federal actions are outlined in our proposed and final rules to list both cacti as endangered under the ESA published in the *Federal Register* on October 11, 2012 (77 FR 61836) and October 24, 2013 (78 FR 63796), respectively. A proposal to designate critical habitat for both cacti was published in the *Federal Register* on January 22, 2015 (80 FR 3316).

Q5: What are the biggest threats to these two cacti?

A: Wild populations of Florida semaphore cactus no longer occur on half of the islands in the Florida Keys where they historically occurred. Threats of collection and vandalism, predation by the nonnative cactus moth, disease, competition from nonnative, invasive plant species, wildfires, and habitat loss affect the remaining populations. Additionally, low genetic diversity and lack of sexual reproduction are threats to Florida semaphore cactus.

Aboriginal prickly-apple no longer occurs in the northern extent of its range in Manatee County, and threats of collection, competition from nonnative, invasive plant species, wildfires, disease, predation, vandalism and habitat loss affect the remaining populations.

For both of these cacti, since there are only a few small populations of each and the remoteness of their occupied habitat makes enforcement difficult, collection has and continues to be a significant threat to both of these species. Because populations are isolated and these cacti have a limited ability to recolonize historically occupied habitats, they are vulnerable to natural or human-caused changes in their habitats.

Q6: What areas are designated as critical habitat for the two cacti?

A: Four units are designated as critical habitat for Florida semaphore cactus in Miami-Dade and Monroe Counties. Eleven units are designated as critical habitat for aboriginal prickly-apple in Manatee, Sarasota, Charlotte, and Lee Counties.

The Florida semaphore cactus is found in all four units. Of its 4,411- acre critical habitat designation, only about 576 acres are on privately-owned land. Most of the privately-owned land is owned by The Nature Conservancy, and the rest are small parcels owned by private land-owners. The reminding areas in the designation are state-owned (58 percent), federally-owned (28 percent), or county-owned (1 percent).

The aboriginal prickly-apple is found in nine of its 11 critical habitat units. Of its almost 3,444-acre critical habitat designation, about half of the lands are state-owned, 15 percent are county-owned, 11 percent are federally-owned, and 26 percent are privately-owned. Both of the unoccupied critical habitat units are within the prickly-apple's historic range, and both contain suitable habitat for its reintroduction.

Q7: Why is the Service designating two critical habitat areas for the aboriginal prickly-apple that are unoccupied by the plant?

A: The current distribution of the aboriginal prickly-apple is reduced from its historical distribution, with no populations remaining in Manatee County at the northern extent of the plant's range. Although the prickly-apple is not currently found in Terra Ceia in Manatee County or in Cayo Costa in Lee County, Florida, both areas still have habitat suitable for reintroduction and expansion of the plant's populations. Both areas feature large, connecting habitat parcels that additional populations can expand or be reintroduced to help the prickly-apple survive threats such as hurricanes, storms, succession, habitat disturbance, and sea level rise. A total of 66 acres of Terra Ceia is owned by the State of Florida, 70 acres are owned by Manatee County, and 87 acres are privately-owned. A total of 1,379 acres of Cayo Costa are owned by the State, 94 acres by Lee County, and 230 acres are privately-owned.

Q8: What do these critical habitat designations mean to private landowners in the area?

A: It is unlikely private landowners will incur costs or have any impacts to their ability to manage their land associated with these critical habitat designations.

Under the ESA, critical habitat identifies geographic areas important to the survival of these cacti. Although some of the areas within the critical habitat designations are located on private land, there are no federal regulations affecting critical habitat on private lands unless the activity is authorized, funded, or carried out by a federal agency. Designation of critical habitat does not affect land ownership or establish a refuge, reserve, preserve, or other conservation area. If federal funds are involved in a project in the area, the government agency will need to consult with the Service to help landowners avoid, reduce or mitigate potential impacts to the plants or to ensure actions do not negatively affect these plants or modify their critical habitat.

Q9: How were these critical habitat areas chosen?

A: The ESA directs the Service to use the best scientific data available for designating critical habitat. When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. For the two cacti, our biologists considered the physical or biological features that are essential to their conservation and may require special management considerations or protection. These include space for individual and population growth, nutritional or physiological requirements, and habitat that are protected from disturbance.

Q10: How is critical habitat defined?

A: Critical habitat is a term in the ESA that identifies geographic areas occupied by the species at the time of listing that contain features essential to the conservation of a listed species and which may require special management considerations or protection and areas that are not occupied but are essential for the conservation of the species. Specifying the location of habitat essential to the conservation of the species helps federal agencies identify where to utilize their authorities to benefit listed species. The designation also helps focus the conservation efforts of other conservation partners, such as state and local governments, non-governmental organizations and individuals.

However, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not support recovery of the species. Federal agencies will continue to consult with the Service on any action they conduct, fund and/or permit that might affect the species regardless of whether the action occurs within designated critical habitat.

When critical habitat is designated, this responsibility broadens to include consideration of any destruction or adverse modification of critical habitat that could result from the proposed federal action. Designating critical habitat also provides non-regulatory benefits by informing the public of areas that are important to the species' recovery and identifying where conservation actions would be most effective.

Q11: What are the potential economic impacts of these critical habitat designations?

A: An economic analysis estimated that the total economic costs of the critical habitat designations for these two cacti are largely administrative.

For the Florida semaphore cactus, the economic analysis estimated that the total economic costs of the plant's critical habitat designation are not likely to exceed $7,100 in 2014 dollars in a single year. For the aboriginal prickly-apple, the economic costs are not likely to exceed $7,000 in 2014 dollars in a given year. Adding the costs of consultations and minor conservation efforts in both the critical habitat area occupied by the prickly-apple and the area of suitable, but presently unoccupied, critical habitat, the estimate would not exceed $67,000 in 2014 dollars in a given year.

Federal agencies must make a special effort at conservation when they work in an area designated as critical habitat for a listed species. The economic analysis estimates the cost of consultations with the Service when a federal agency works in an area designated as critical habitat, or funds or permits work done by others. Federal, state and local government agencies and some projects may incur costs for work involving federal funding or a federal permit. The estimate does not include any costs incurred as a result of the listing of these plants because the ESA states that listing a species is to be based solely on the best available scientific information.

Q12: Did the Service get any advice and suggestions from outside scientists on this decision?

A: The Service requested review from three peer reviewers and received two peer review responses on the proposed critical habitat designation. Both peer reviewers noted that the proposal was comprehensive and that the data the Service relied upon to delineate critical habitat was sound. Peer reviewers did not provide any new information that would necessitate changes to the final rule.